Training the Applied Developmental Scientist for Prevention and Practice: Two Current Examples

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This report complements a recent SRCD Social Policy Report prepared by graduate students on training and career options for developmental scientists (see Susman-Stillman et al., 1996). That report elaborated on several themes related to students seeking opportunities to apply developmental principles to address social problems, with emphasis on the knowledge, skills, and experiences that can help professionals bridge the gap between science and policy. The present report focuses on applied developmental science training in psychology departments and medical schools where the emphasis is on direct delivery of services aimed at the identification of developmental risk and the prevention and remediation of developmental problems. We present detailed descriptions of two training programs. Although each program incorporates the conjoint aspects of application, development, and science, they differ dramatically in their educational settings, problem foci, student bodies, and curricula:

• The Fordham University program provides formal doctoral training in applied developmental psychology with a life-span, risk prevention, and scientist-practitioner emphasis.

• The Louisiana State University Medical Center program offers experiential postdegree training for practitioners wishing to acquire a developmental science and community-based perspective on infant mental health.

A Brief History of Developmental Science Training

Training in developmental science is at a critical turning point, as once again concern about the application of developmental knowledge comes to the fore. Just over a century ago private foundations and land grant universities promoted the scientific study of the child and community outreach as interdisciplinary ventures to prevent poor developmental outcomes in underprivileged children and families (Hagen, 1996; Murray, 1996; Sears, 1975; Smuts, 1986). In the early 1900s Child Development Institutes at Columbia University Teachers College, the
University of Minnesota, and the University of California, Berkeley were encouraged by private foundations like the Laura Spellman Rockefeller Memorial Fund, to conduct research that would foster reforms to enhance the welfare of women and children (Fosdick, 1952; Hagen, 1996). Even earlier, following the 1862 Morrill Act (Rasmussen, 1989), land-grant universities like Kansas State, Michigan State, and Pennsylvania State were mandated to foster education, research, and extension services responsive to the human development needs of the local citizenry.

During the early and middle parts of this century, the field departed from its roots in “child saving” and the prevention of societal ills to create an unprecedented body of scientific knowledge about the capabilities of children and the sequelae of their development (Hagen, 1996). The impetus for this shift in emphasis from promoting child welfare to understanding child development came from the concern that programs continued despite a lack of empirical justification. Laboratory research burgeoned, and graduate training programs sprang up to train basic researchers (Hagen, 1996; Sears, 1975; Siegel & White, 1982; Youniss, 1990).

The emphasis on laboratory-based training created new techniques and methodologies that taught students how to observe and document a range of developmental phenomena in highly controlled settings. The developmental patterns observed in such studies, however, were assumed to be universal (Morrison, Keating, & Lord, 1985), and faculty and students often ignored problems of validity beyond the experimental setting and potential variation by gender, race, ethnicity, and socioeconomic status. The singular emphasis on laboratory controlled studies also reinforced the role of developmental scientists as experts and children and parents as the “subjects” of study, further distancing students from the communities their work might serve. Moreover, students were trained to publish descriptions of knowledge generated by developmental science in language and journals inaccessible to parents, teachers, practitioners, policymakers, and others who could apply the knowledge to directly promote the welfare of children and families (Sigel, 1990).

During the latter half of this century, social and economic forces once again converged to shift the direction of developmental science training back to practical problems. Applications of developmental science were renewed in the 1940s and began to receive national attention through the Head Start project (Woodhead, 1988; Zigler & Valentine, 1979). Developmental intervention research has continued to move toward center stage as citizens, scientists, practitioners, and policymakers can no longer ignore the harrowing effects of society’s ills on children. These include effects of poverty, child maltreatment, adolescent pregnancy, drug abuse, and crime on the development of adaptive and productive life skills and on the ability of families and communities to raise healthy and safe children (Chase-Lansdale & Brooks-Gunn, 1994; Children’s Safety Network, 1991; Lerner, 1995; Osofsky, 1996; Schorr, 1990; Takanishi, 1994; Thompson & Wilcox, 1995). Increasing federal fiscal constraints and skepticism about the cost-effectiveness of social welfare programs have also heightened the demand for scientist-professionals who can design and evaluate programs that will efficiently and effectively promote child and family development (Fisher & Murray, 1996; Fisher, Murray, et al., 1993; Lerner et al., 1996).

Economic concerns have also played a role in directing the academy’s attention to practical issues. The increasing emphasis placed by funding agencies on application, the declining academic job market, and the resultant need for students to be prepared for employment in nonacademic settings has helped move developmental science training from the laboratory into the community (Higgins-D’Alessandro, Fisher, & Hamilton, in press; Klatsky, Alluisi, Cook, Forehand, & Howell, 1985; Susman-Stillman et
al., 1996). Equally influential is the shifting demographic landscape of American society and the country’s consequent efforts to respond, for example, to the changing cultural composition of its residents (Busch-Rossnagel, 1992; Fisher, Jackson, & Villarruel, 1997; McLoyd, 1994). These factors have led in turn to the integration into mainstream developmental science training of theoretical and methodological models that emphasize the ecological contexts and relational nature of human development (Baltes, Reese, & Lipsitt, 1980; Bronfenbrenner, 1977; Bronfenbrenner & Morris, 1997; Lerner, 1986; Overton, 1997).

The extent to which future social programs will effectively prevent developmental problems and optimize the human capital of America’s children and families rests in large part on the training of a new generation of scientist-practitioners. The applied developmental scientist must be able to consult with community members toward understanding the forces that shape their development and to work with practitioners to ensure that community goals are achieved (Fisher & Murray, 1996; Lerner & Fisher, 1994; Melton, 1995). This report describes how two institutions have approached the challenge of applied developmental science training.

**Fordham University's Doctoral Training in Applied Developmental Psychology**

**Historical Background of Doctoral Education in Applied Developmental Psychology**

In 1991 representatives from national organizations concerned with the interface between developmental research and societal needs met at Fordham University for the first National Conference on Graduate Education in the Applications of Developmental Science across the Life Span (Fisher, Murray, et al., 1993).* The conference produced a set of educational guidelines for training developmental specialists to work with community members, practitioners, and policymakers in generating knowledge and creating programs to reduce developmental risk across the life span. Recommended curriculum components were designed to provide students with the competencies to

1. conduct research addressing practical problems as they emerge in real world contexts;
2. construct, administer, and interpret developmentally and culturally sensitive assessments of developmental strengths and vulnerabilities;
3. design, implement, and evaluate development promoting interventions; and
4. disseminate knowledge about developmental processes to professionals, organizations, and policymakers involved in child and family welfare.

Conferees also saw field experiences as an essential element of applied developmental science education that would provide trainees with a supervised opportunity to extend their knowledge and skills to social problem solving in real-world contexts.

Doctoral training in applied developmental psychology (ADP) at Fordham University was first initiated in 1989 as an applied research program (Fisher, Rau, et al., 1993). Following the National Conference, the program sought to adapt recommendations to fit a scientist-practitioner model grounded in the discipline of psychology, providing students with the skills needed to study, prevent, and intervene in developmental problems affecting individuals, families, and the community systems in which they live, including schools, hospitals, and social service, justice, and government agencies. The primary goal of the program is to prepare graduates to engage in university teaching, research, consultation, and psychological practice aimed at preventing developmental disorders and promoting positive development across the life span.
A DEVELOPMENTAL-CONTEXTUAL MODEL FOR SCIENCE AND PRACTICE

Fordham's scientific and professional psychology training assumes that the success of action research and individual, family, and school interventions is related both to the validity of a guiding developmental theory and to the extent to which a research question or treatment strategy complements the self-perceived goals and needs of community members and systems (Fisher, Rau, et al., 1993; Fisher & Murray, 1996; Higgins-D'Alessandro et al., in press; Lerner et al., 1996). In research, consultation, and service delivery training, Fordham students are taught to actively engage parents, practitioners, and institutional administrators as collaborators in establishing new ways of advancing knowledge and building individual and system-based developmental strengths. This co-learning model of university-community partnerships leads to a number of interrelated training goals (see Higgins-D'Alessandro et al., in press):

• Contextually guided action research. Students are taught to investigate the causes, consequences, and correlates of psychological and developmental strengths, vulnerabilities, and problems as they emerge within the life contexts of individuals, families, and the institutions that serve them;

• Identifying individual, family, and organizational needs and goals. Students are trained to conduct individual and family needs assessments and school and community focus groups that can accurately identify the concerns and goals of service recipients, practitioners, institutional administrators, and public officials. In designing research studies, prevention programs, or professional services, they are taught to be attuned to the competencies of both service providers and service recipients and to be cognizant of the enhancing and limiting roles of institutional regulations and local and federal laws.

• Assessing program readiness. Fordham graduates are able to assess the readiness of individuals to benefit from programs and interventions, predict who will use service delivery programs, and determine how to increase usage among those who do not easily enter a system to obtain services. When working with poor, disenfranchised, and historically oppressed populations, Fordham students learn to heed Laosa's (1990) caution against promoting differential expectations which may inadvertently lead to stereotyped classifications of individuals for bureaucratic purposes, undue constriction of program focus, segregated programs, and differential quality of services.

• Delivery of psychological services. Students are trained to directly deliver services to individuals and families and to apply techniques drawn from family systems, mental health consultation, and behavioral management orientations framed within a development promoting and risk prevention framework.

• Process and outcome evaluations. Fordham students learn to assess the extent to which intervention strategies are being adequately and uniformly implemented. They conduct program evaluations which ensure that the relationship between outcome measures and actual program efficacy has both scientific and social validity.

• Data sharing. Fordham students learn to consult with and share data with research participants, service professionals, and service recipients in ways that enhance the validity of conclusions drawn, provide for listening and responding to community concerns, and help sustain successful initiatives and generate alternative developmentally grounded psychological theories and evaluation strategies. Community dialogues concerning the results of program evaluations are used as a means of ensuring that the dissemination of research results
promotes positive plans of action rather than negative stereotypes.

- Ethically responsible research and practice. Finally, Fordham students are taught to pay particular attention to the features of ethical science and practice, such as discussing with prospective participants their rights, interests, and potential risks of research participation and treatment, considering when proxy consent is required and when it can or should be waived, and interweaving referral activities into all projects which have the potential to tap pathology, disability, abuse, or health compromising behaviors requiring attention beyond that provided by a specific project or service.

**Creating a Competency-Driven Applied Developmental Psychology Curriculum**

The training goals described above have been translated into an organized series of didactic course work and field experiences that deepen students’ knowledge and skills in six core areas:

1. The general and developmental psychology core includes course work in history and systems in psychology, individual differences, and developmental patterns associated with the biological, cognitive-affective, and social bases of behavior.

2. The applied research core includes course work in contextually sensitive research methodologies and statistical techniques and a first year research apprenticeship followed by a succession of increasingly more independent research projects.

3. The individual assessment and intervention core includes course work and practical experience in the administration and interpretation of psychological and developmental assessment instruments, as well as mental health consultation, multicultural counseling, and child management techniques.

4. The systems applications core includes course work and practical experience in family therapy, assessment of community needs and service utilization patterns, school and community-based program design and evaluation, instructional consultation, and parent education.

5. The ethical, legal, and professional standards core includes course work and supervision on scientific and professional decision-making guided by the American Psychological Association’s Ethics Code, federal guidelines for human subjects research, and mental health law.

6. The experiential core as described in detail below provides a year-long supervised professional psychology practicum experience that enables students to apply their scientific and professional skills in social service agencies, schools, hospitals, and legal advocacy settings, which in turn prepares them for internship placements and the ability to successfully complete a dissertation that has scientific validity and community value.

**Practica and Internships: Essential Components of the Fordham Curriculum**

An essential core element of the Fordham curriculum provides the practica and internships that give students first-hand experiences in working collaboratively with community stakeholders to translate research into practice and practice into research (Fisher, Murray, et al., 1993; Rebok & Miller Sostek, 1996). Fordham has ongoing collaborative practica and internship relationships with hospitals, clinics, schools, nursing homes, women’s shelters, and day care and child development centers. These field experiences build sustainability into the Fordham graduate curriculum by forging interactions with community members and institutions that continue across years as new students enter established practicum sites (Higgins-
D'Alessandro et al., in press).

Fordham's applied developmental psychology practicum is a two-semester required course for third year students. It is followed by fourth- and fifth-year full- or part-time internships. The practicum and internship are aimed at meeting four interrelated goals: (1) to provide students the opportunity to apply established knowledge and skills and to acquire additional research, assessment, and intervention techniques in institutional contexts; (2) to offer students the opportunity to collaborate with other psychologists, teachers, policymakers, medical practitioners, social service providers, and school and hospital administrators to identify their evolving needs and help achieve the institutional missions; (3) to test and strengthen students' self-definitions as scientific and professional psychologists with developmental science expertise who work with other disciplinary professionals to promote the development of children and families; and (4) to offer Fordham's community partners a means of sustaining university-community collaborations (Higgins-D'Alessandro et al., in press).

Although the dynamic nature of community-university collaborations means that the specific goals and nature of each field experience will evolve over time, this does not mean that the practica and internships are informally structured. Rather, the constantly changing demands and opportunities faced by sites serving the developmental needs of individuals and families require a clear statement of purpose and commitment from the Fordham faculty supervisor, the student, and the site supervisor to ensure that academic and institutional goals are indeed met during the course of each year (Higgins-D'Alessandro et al., in press). Fordham faculty hold the major responsibility for the students' field experiences. They develop contacts with field supervisors, ensure that practica and internship experiences complement student career goals, work with students and supervisors to define in advance responsibilities and evaluation procedures, and conduct weekly seminars for the practicum to guide students through the scientific, practical, and ethical challenges of the field experience.

**Career Preparation**

Fordham students have often expressed the view that the educational value of field experience is proportional to the problems and constraints the student, faculty, and site supervisor have worked through and overcome (Higgins-D'Alessandro et al., in press). The effort and commitment demanded by the community-partnership model of science and practice has enhanced the employment options for Fordham students. Career opportunities are also expanded because the program's course work, practica, and internships prepare students to qualify to apply for state licensure as professional psychologists.

Students are employed at universities, hospitals, and private- and government-funded institutes where they teach, conduct research, and administer programs. They have secured staff positions in medical facilities, schools, and social service agencies where some assess service utilization needs, provide psychological consultation to teachers on behavioral management and instructional techniques appropriate for children and adults with developmental disabilities, or train nurses and other health practitioners to apply developmentally appropriate strategies in programs designed to optimize children's ability to comply with essential health management routines (e.g., in the case of asthmatic or diabetic children). Some students are employed at hospitals where they coordinate geriatric mental health services and serve as community liaisons. Still others work at medical facilities where they evaluate the fitness of families for foster parenting or for regaining child custody following the loss of parental rights due to abuse or negligent behaviors.

Graduates continue to stay in touch with Fordham faculty. They provide invaluable feedback on aspects of the program that were helpful to their professional development and features that need to be strengthened to insure that
The Harris Center for Infant Mental Health at the Louisiana State University Medical Center and the Role of Community Work in Training in New Orleans

A BRIEF HISTORY OF INFANT MENTAL HEALTH TRAINING

In New Orleans and across the nation there is an insufficient supply of trained professionals with specialized expertise in infant mental health. In part, the lack of highly trained infant mental health professionals is due to the widely held assumption that infants do not have mental health problems. Infant mental health training has nonetheless been ongoing in the United States for about 30 years, but only in the past 10 to 15 years with some degree of intensity. The training sites are generally small and provide highly specialized expertise. There are also differences in perspective related to what defines a quality infant mental health training program. Often the limited infant mental health training available is incorporated into ongoing training programs, most often in child psychiatry and developmental psychology.

Several national and international organizations have made efforts to expand awareness of infant mental health issues and to encourage training initiatives. In the past few years the Harris Foundation has encouraged and funded the Professional Developmental Network which is devoted to training in infant mental health. This network of eight national and several international training centers in Israel meets at least twice a year to share perspectives on the definitions and meanings of infant mental health training and to coordinate training efforts. The professionals who direct the centers come from a variety of disciplines and are working to develop shared curricula, videos, and other training materials. In addition, Zero to Three, the National Center for Infants, Toddlers, and Families, and the World Association for Infant Mental Health are currently developing initiatives that may encourage expanded training over the next few years. These include national and international meetings, regional activities, publications, and innovative training efforts such as videoconferencing.

To address the pressing need for expertise, the Department of Psychiatry at Louisiana State University Medical Center has, since 1993, given mental health professionals the option of obtaining infant mental health training as part of a special fellowship in child psychiatry or psychology and of participating in several community-based projects as part of their training. From these beginnings the Harris Center for Infant Mental Health was established. As described later in this section, trainees at the Harris Center also participate in LSUMC's Violence Intervention Program for Children and Families (VIP) as well as other community-based programs.

PROGRAM DESCRIPTION

The Harris Center for Infant Mental Health was founded in 1996 within Louisiana State University’s Medical Center’s (LSUMC) Department of Psychiatry. The program builds on existing efforts at the medical center to train infant mental health professionals and to create community-based programs. Infant mental health training in the Department of Psychiatry has been ongoing for over five years. Training was first initiated jointly by several faculty members with expertise in infant mental health and by graduate students and practitioners interested in receiving such training and aware of the department faculty’s research on early intervention and clinical work with infants and families.

Prior to the formal initiation of this program, predoctoral and postdoctoral psychology students and child psychiatrists had been involved in research and intervention with adolescent mothers and their infants through the Adolescent Mothers Initiative Program, with
children and infants exposed to violence through the Violence Intervention Program for Children and Families (Osofsky, 1997), and with homeless teenage mothers and their babies at Covenant House. With the formal establishment of the Harris Center, predoctoral and postdoctoral fellows, supervised by senior staff, have also had the opportunity to provide evaluation and services for high-risk infants and their caregivers, through the Jefferson Parish Health Authority and the Juvenile Court System, and to provide consultation, evaluation, and treatment services for infants and parents or caregivers at community infant day care centers. Currently, plans are under way to expand efforts with the Orleans Parish Juvenile Court System and the State Department of Health and Hospitals.

With generous funding from the Harris Foundation, the Center expanded these efforts into an innovative formal training program that increased both the breadth and depth of training in infant mental health provided to professionals and paraprofessionals. The Center is committed to blending science with practice and training, with a community-based focus on high psychosocial-risk infants and families. The Center uses a systems model and emphasizes the urgent need for prevention and intervention during this earliest stage of development. The intervention training takes place in the university/medical center child psychiatry setting programs and in other community-based programs.

The populations with which LSUMC clinicians work tend to be at high risk for mental health problems; the typical patient/client faces the complex and interrelated problems of poverty, including adolescent parenthood, intergenerational violence, unsafe neighborhoods, and lack of access to services. Interventions must therefore be directed toward multiple systems within the family structure and community. The intervention in any one case may involve some of the following systems: schools, community agencies, office of community (e.g., protective) services, courts, and law enforcement agencies. Key individuals in the various systems must come to understand the importance of the child’s earliest years and invest in prevention rather than accept the prospect of playing catch-up later on when problems are already entrenched.

Trainees

Program breadth. Trainees admitted to the Harris Center Infant Mental Health program can come from a variety of disciplines, but most often they come from the fields of child psychiatry, child clinical or developmental psychology, and social work. To meet the immediate demand for infant mental health specialists, the program has a special interest in training mid-career professionals who are already experienced clinicians but who lack knowledge about the unique issues of infancy and early childhood.

Trainees from the fields of nursing, public health, early intervention, physical therapy, or occupational therapy are also offered training, primarily through in-service workshops. The Center conducts in-service training for infant and day care providers and individuals working in community agencies, many of whom are trained in early childhood education but do not have advanced degrees.

Length of training. The length of training for most Harris fellows is one year. Exceptions are sometimes made for foreign trainees who may receive abbreviated training. Each trainee receives a minimum of two hours a week individual supervision from two faculty members. Many receive more than two hours, although some of that supervision is conducted in groups. The permanent faculty/supervisors include two psychologists, a psychiatrist, and a social worker. In addition, the Center has approximately four visiting faculty who are primarily infant/child psychiatrists. All faculty have worked in the area of infant mental health for at least five years and most much longer. Supervision is conducted both at the medical center and at community sites.

Objectives of Training

The ongoing development of the training program is driven by the need to respond to sev-
eral key questions: How and why do mental health professionals become involved with work in the community? Why should we move beyond the “intellectual safety” of our institutional setting and venture out into the community? How should we provide training for mental health professionals, psychiatrists, psychologists, and social workers outside the confines of the institution? How should we prepare infant specialists to work in the community where, as academicians, researchers, or clinicians, they may be viewed with considerable skepticism?

At the Harris Center for Infant Mental Health trainees learn to apply what they already know and, at the same time, gain new skills relevant to this specialty. The goals of training are

(1) to train mental health professionals from a variety of disciplines in the identification, evaluation, and treatment of clinically disturbed and high-risk infants and their families through hands-on clinical experience in community sites under faculty supervision; a weekly clinical case conference attended by all faculty and trainees; a proseminar on infant mental health attend by all faculty and trainees with periodic guest lecturers with particular expertise;

(2) to develop a critical mass and network of infant mental health professionals in the greater New Orleans region who can collaborate with and mutually support one another in their professional endeavors. To this end, trainees are recruited from the LSUMC Department of Psychiatry, the LSU Department of Psychology, the Office of Community Services, and several community agencies that work with children and families. The trainees must have advanced degrees with some clinical experience. To date, all applicants have been accepted; however, the larger organized training program has only been ongoing for two years;

(3) to strengthen the collaboration between the local New Orleans infant mental health community and with the state and national infant mental health communities by linking the Harris Center for Infant Mental Health and its fellows with the Louisiana Infant Mental Health Association and encouraging and providing support for the Harris Infant Mental Health fellows to attend the annual Zero to Three Training Institute, sponsored by the National Center for Infants, Toddlers, and Families;

(4) to encourage trainees to seek help and guidance with specific questions and problems from recognized experts. A list-serve network is being established for all participants in the professional development network. In addition, through their senior supervisors, the trainees are encouraged to communicate about specific issues with infant mental health colleagues from other institutions and centers;

(5) to acquaint fellows with the expertise of a nationally recognized scholar/practitioner from outside the local area. To accomplish this, a yearly Harris visiting professorship has been established. The visiting professor teaches the trainees and broader infant mental health community in the greater New Orleans region. The visiting professor for 1996-97 was a scientist/practitioner who shared his expertise in perinatal loss and also conducted a training workshop in Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood. The Visiting Professor for 1997-98 will likely be a major theoretician in infant mental health who will share his or her clinical and research expertise.

Trainees spend half time in the Harris Training Program and half time in their primary site during the fellowship. Agencies agree to give trainees release time to be a Harris fellow. They pay half the fellow's salary and the Center pays the other half. For graduate students, the fellowship takes the place of a teaching or research as-
sistantship position. Graduate students continue with their classes and other responsibilities half time. Trainees recruited from community sites agree to return full time to provide infant mental health expertise to their agencies after completion of the fellowship. Trainees recruited from academic centers either return to that center or to another academic site to provide mental health expertise and training to others. Faculty help with academic and clinical post training placements as needed.

The didactic and field components. The formal learning component includes either a reading group or a seminar on infant mental health and an ongoing case seminar. Readings and seminar topics cover three main areas: theoretical and developmental knowledge, techniques of assessment and evaluation, and treatment strategies and methods. Theoretical areas include important topics such as the work of developmental theorists, including Bowlby, Spitz, Stern, Fraiberg, and many others. Developmental issues include normative development—physical, cognitive, emotional, social along with deviations in normal development. Developmental psychopathology is covered as well as problems in development, for example, sleep difficulties, feeding difficulties, and attachment problems. Assessment includes different strategies from various centers around the country and world to evaluate infants and their families. Treatment strategies include play therapy, infant-parent psychotherapy, parental guidance, and interactional guidance. The topics include significant and continual integration of developmental science and practice literature.

Trainees have the opportunity during the case seminar to present their ongoing cases to the group for discussion. Frequently cases involve abuse and neglect, exposure to violence, inadequate parenting due to depression or substance abuse, custody issues, etc. Less frequently, they include more clear-cut and simpler issues of sleeping or feeding difficulties. The diagnosis of posttraumatic stress disorder is common in the population of infants and families served by the Center. At times, staff evaluate and treat an infant-parent dyad when the child suffers from autism or pervasive developmental disorder. In a unique additional activity each trainee identifies and follows a normal, low-risk infant and family whom they visit and observe every other week for about 1 hour over a 6-month period. In addition to individual supervision to discuss their cases and observations, trainees have the opportunity once a month to present their observations of the normal infant and caregiver with the overall group.

Each fellow works 20 hours per week as a Harris fellow and carries between two and five cases, depending on the intensity of the case. All clinical trainees see similar cases regardless of their discipline; however, the more complex cases are usually assigned to trainees who enter the program with more clinical experience. For the less experienced trainees, beginning evaluations are always done jointly with a supervisor. The discussions of the cases are greatly enriched by having the perspectives from many different disciplines.

**Observational Training**

In working with infants, the primary learning takes place through direct observations. For example, the trainees work under supervision at community sites doing evaluations and treatment with infants and families. Much of the evaluation involves direct observations of relationship aspects of the interactions between infant and caretaker. The interactions are observed in structured and unstructured situations to allow for a variety of responses. To prepare the trainees for these observations, much of the teaching and supervision involves observing videotaped interactions from research situations and/or clinical interventions. Theoretical and scientific knowledge of infancy and early development serve as a foundation for determining if development is going as it should or if it has been derailed or interrupted.

Infant mental health specialists are then trained to evaluate and work with infants and
families who are having difficulties early in development. Evaluation and intervention techniques focus on prevention of potential developmental problems and remediation of developmental disorders. The evaluation process involves both parents/caregivers and infants and takes place at the beginning of the treatment. The assessment includes evaluation of infant-caregiver interactions, child competence as well as psychopathology, and adult pathology (e.g., depression). The developmental model that guides most of the evaluation is a relationship-based assessment (see Harmon & Osofsky, 1997; Sameroff & Emde, 1989).

Different methods for evaluating infants and toddlers for treatment were recently reviewed in a Special Issue of the Infant Mental Health Journal (Harmon & Osofsky, 1997). Examples of measures that may be used in the evaluation include structured and unstructured observations, observations of a separation and reunion, a measure of maternal/paternal emotional availability (Hann, Osofsky, Barnard, & Leonard, 1994), a working model of the child interview (Zeanah et al., 1997), a self-report measure of depression and/or parental stress, and a measure of community and domestic violence exposure. All adults are informed before the evaluation that staff must report any child abuse identified in the course of the evaluation. Some cases are either directly or indirectly linked with the court system, and parents know that reporting may have to be done.

Certificate of Graduation

All fellows receive a certificate of graduation from the infant mental health training program at the annual graduation exercise. All fellows, regardless of discipline, receive the same certificate of graduation for infant mental health training if they have successfully completed the program. Decisions about the quality of their work are made jointly by their individual supervisors and the directors of the program.

An Example of Community-Based Services and Training

All trainees are assigned to community sites for their training. For several trainees this means an ongoing infant assessment and intervention program that is mandated through the court system. For others, it means being available for consultation and evaluation at infant care centers. Training, guidance, teaching, and supervision takes place in a community setting. Another example of a community-based training program where both infants and school-aged children are seen is the Violence Intervention Program for Children and Families (Osofsky, 1997).

VIP was developed as a direct response to the crisis of rising violence in New Orleans (paralleling that in the United States as a whole) and the fact that ever increasing numbers of children were being exposed to violence as victims or witnesses. As is unfortunately well known, in some areas of inner cities throughout the United States neighborhoods have become like war zones with children carrying guns and other weapons to school in order to feel safe. Mothers teach their children to watch television lying beneath the window sills in order to avoid random bullets.

The philosophy guiding the training within the VIP program is a systems approach to working with the whole community to solve the problem of violence among our youth. The project aims to decrease violence through a combination of early intervention, counseling, and treatment, which includes services to victims as well as education and prevention forums directed at police, parents, and children. A key component of the program is education of police officers about the effects of violence on children and families to increase their knowledge and sensitivity when dealing with violent incidents. In 1995, 350 police officers received education within the academy with continual follow-up discussions and consultation during roll calls. Currently, another broad-based educational effort is underway for the entire police force. The
trainees, depending on their level of education and interest, participate with the faculty in both direct education of police officers and “training of trainers,” which is an important component of the program.

Several clinician fellows from the Harris Infant Mental Health Training Program participate in the VIP program in assessing and treating young victims and witnesses of violence and their parents/caregivers. In addition, applied developmental psychologists and clinical psychologists, usually as postdoctoral fellows, and social workers in the Department of Psychiatry at LSUMC participate in this program. They are involved in the evaluation and educational components of the program. Surveys and focus groups are carried out by the trainees with the police, teachers, and parents. In addition to police education, the trainees have the opportunity to participate with faculty in facilitating parent support groups, in educating teachers and counselors about the effects of violence on children and other topics of interest to them, and in providing in-service education in a variety of areas as requested by schools and community sites.

In an effort to reach the traumatized children and families as quickly as possible, a 24-hour hotline was established to provide the needed communication through which children and families touched by violence could seek immediate referral, counseling, and guidance. Social worker and psychology trainees staff the hotline with backup by a senior psychologist. The hotline is available to police officers and families to seek advice or information at the scene of community or domestic violence or to obtain a consultation or referral. The police distribute VIP cards with the hotline number to families so that they can seek help if needed. A large number of the calls are for children 12 years old and younger (with some children as young as 1 to 2 years of age), and approximately 50% of the calls became referrals for mental health services. Crisis interventions with infants and children traumatized by violence is done in collaboration with the New Orleans Police Department.

In 1995 approximately 100 infants, children, and families were referred to the Child Clinic at LSUMC for consultation, therapy, or parental guidance related to exposure to violence. In 1996, as the program expanded, that number more than doubled, with referrals of at least 250 infants and children per year. The trainees in the VIP program, some of whom are fellows in the Harris training program, are assigned cases referred through the clinic and are provided with supervision in treating the cases by social workers and psychologists. Many modes of treatment are used depending on the ages and needs of the infants, children, and families; these may include individual work with the infant or child, individual work with the parent, work with the family, and group work with the older children. All of the trainees receive training through dyadic work and individual supervision on treatment of children and families who have been traumatized by violence exposure. In addition, initial assessments are done by all trainees as part of the clinic intake process. These assessments are scored, interpreted, and discussed with them. Follow-up assessments are planned every 6 months and at termination of the cases.

Intervention and treatment are also carried out at community sites and are usually done jointly by the faculty and the trainees. In developing this program, planners worked to find ways to build relationships between community, police, mental health professionals, and schools to develop appropriate prevention and intervention services for referred infants and children who witness violence and suffer from symptoms such as nightmares, disruptive behavior in school, or difficulties with separations. The training programs are integrated with the VIP project for those trainees who are interested in learning more about community work. Staff continue to confer with the police to assure that prevention and intervention strategies support police in their investigation of incidents such as domestic violence. Staff also work with parents to help find ways that they can protect their chil-
children and keep them safe and away from violent scenes because of the potentially traumatizing impact on both them and their children. Further, staff work to build strengths in communities to help both parents and children. Through the LSU training programs, models of community-based training have developed that enable mental health professionals to work effectively and sensitively in the community.

Summary

The trainees at LSU Medical Center in New Orleans through the Harris Center for Infant Mental Health and the Department of Psychiatry in community outreach programs conduct community work as an integral part of their training. The setting provides an excellent opportunity for applied training for mental health professionals related to the earliest period of development. With an overall perspective on prevention and commitment to early intervention, the Harris program has allowed applied developmental clinical training to expand to include an emphasis on work with high social-risk populations. Thus, trainees are equipped to work in community settings, to provide education and clinical services, and to participate in outreach activities to spread knowledge about the importance of the earliest years of development.

Training the Applied Developmental Scientist: Challenges and Opportunities

We have described a range of university-community interactions facilitated by two different types of applied developmental science programs. We have attempted to illustrate the challenges and educational models that emerge when training programs seek to produce professionals who can integrate the conjoint aspects of application, development, and science into practices that help individuals, families, and practitioners solve real-world problems. Additional challenges for programs wishing to offer applied developmental science training in psychology departments and medical schools concern decisions regarding the need to provide students with credentials that will expand their employment options; assure the public that training is of the highest standard; ensure that program curricula and field experiences match claims made about training; and help faculty in their efforts to model activities that integrate knowledge generation and application.

Credentialing

Traditionally, credentials for developmental science teaching and research positions were defined in terms of degree, teaching experience, publications, and the ability to acquire external funding. By contrast, when developmental scientists seek nonacademic employment or teaching and research positions in programs, such as those in medical schools, that look for both scientific and applied expertise, formal credentialing by boards and organizations outside the university are often required.

One such form of credentialing is licensure or certification by a state board of psychology. The purpose of licensure is (a) to provide public assurance that psychologists engaged in the direct delivery of services have demonstrated competence in the knowledge base and applied strategies of professional psychology and (b) to ensure that such professionals are subject to disciplinary procedures if they violate state laws for professional conduct (Fisher & Koocher, 1990).

Licensure is important for applied developmental scientists trained in psychology programs who will seek employment in practice settings: First, licensure assures employers and the public that the applied developmental psychologist is competently trained in ethical standards, assessment, and interventions that directly affect the lives of individuals and their families. Second, in health care facilities and social service agencies, third-party insurance payments for services require that the provider be licensed. Licensure is thus an important criterion for salary and promotional opportunities. Finally, licensure pro-
vides students of developmentally oriented scientist-practitioner psychology programs the opportunity to conduct their work as equals in the professional psychology marketplace (Fisher & Koocher, 1990; Fisher & Murray, 1996; Fisher, Rau, et al., 1993; Goldstein, Wilson, & Gerstein, 1983; Scarr, 1990). In designing course curricula and field experiences doctoral programs seeking to provide scientist-practitioner training in applied developmental psychology will need to become familiar with the educational requirements for licensure in their state and in other states where graduates of their programs may seek employment.

For postdegree programs in infant mental health, licensure is not an issue because trainees are expected to have had previous education and experience that provide them with eligibility for licensure in their discipline, be it psychology, social work, or psychiatry. However, credentialing for infant mental health work, in the form of certificates, for example, is important because it will likely enhance the employment opportunities of trainees and bring institutional, service agency, and policy attention to the fact that infants have unique mental health needs for both prevention and intervention services and that work with infants and families requires specialized training.

**ACCREDITATION**

Accreditation is another issue that applied developmental science training faculty must consider. Accreditation is a voluntary, self-regulatory process designed to assure the public of the quality of educational programs (Fisher & Koocher, 1990). Accreditation can attract students to a program, help graduates qualify for internships or specialty practice, and motivate individuals of a particular discipline to reach consensus on the training that characterizes their unique contributions (Fisher & Koocher, 1990). Accreditation can also be costly and lead to a diffusion and a homogenization of curricula that in turn can limit alternative approaches to training professionals to meet the needs of families, communities, and policymakers.

Currently there is no recognized accreditation system for applied developmental science programs. The American Psychological Association (APA) has new accreditation guidelines that appear to open the door to applications from newer fields such as applied developmental psychology; however, at present APA has only accredited programs in the three traditional specialty areas of psychology (clinical, school, and counseling). As more programs offer applied developmental science training, faculty will have to consider the pros and cons of policies followed by current accrediting bodies as well as alternative ways of generating consensus about training criteria and assurance about program quality.

**TRUTH IN ADVERTISING**

As indicated by the two programs described in this report, programs offering applied developmental science training will differ in the type of degrees offered, the external credentialing opportunities that curricula and field experiences satisfy, and the career paths for which students are prepared. Accordingly, universities and other training centers will have to ensure that program content and training goals are clearly and accurately described in brochures and discussions with prospective trainees. For applied developmental science doctoral programs this often requires that administrators describe carefully where the program falls on the spectrums of disciplinary-multidisciplinary education and science-practitioner activities. For example, applied developmental science programs housed in departments of psychology compared with those housed in schools of human development are often more administratively constrained in their ability to offer students courses from other disciplines (e.g., social work, medicine, sociology), but are in a better position to offer courses in psychological assessment and intervention that will satisfy state licensure requirements for professional practice.

Programs based in medical centers must also be able to describe clearly their diverse
training opportunities. Length and intensity of training are also important considerations. Professionals who attend training workshops will gain new knowledge and clinical perspectives; and additional field supervision and ongoing didactic courses will enhance this growth. But obviously the overall experience will differ for trainees who undertake on-site training for just a few weeks compared to those who receive supervision and engage in increasingly complex activities over six months to a year—or longer. The background of trainees will also affect the type of experience provided. Prospective trainees must be well informed about a given program—about the nature of its educational opportunities and about the career-related outcomes they can realistically expect.

**Nurturing Faculty Development**

A final tension is how applied developmental science faculty deal with the balance between maintaining the production of scholarly research and devoting time to applied work and training. This tension is felt by faculty in university-based doctoral programs and medical centers. They must struggle to engage in activities that advance them in their chosen discipline (e.g., high quality, empirical research that will merit publication in leading journals) as well as maintain the community connections that make their research relevant to developmental problems and their expertise meaningful in teaching students. Some programs try to address this tension in part by hiring professionals trained outside the field of developmental science (e.g., clinical psychologists, psychiatrists) to teach some of the applied skills to students. The danger with this approach is that students may see science and application as separate domains and fail to integrate research and practice in their own careers. To ensure that graduates reflect the bidirectional relationship of science and practice in their work, professors in applied developmental science training programs must model activities in their own professional work that ground assessment and intervention in the science-based understanding of development and use intervention studies to test the validity of developmental theory.

We are now evermore called upon in academia to address the challenges of the “real world” where problems and children cannot wait. Applied developmental science programs, in different ways, can provide trainees with the skills they need to meet these challenges and to accept positions after training that interface science and application. Organizations such as the Society for Research in Child Development may provide a means to bring together applied developmental science programs to work jointly to create the best possible training options for students and the communities they will serve.

**Notes**

*Sponsor organizations for the National Conference on Graduate Education in the Applications of Developmental Science Across the Life Span included the American Psychological Association’s (APA) divisions of Developmental Psychology (Division 7), Adult Development and Aging (Division 20), and Child, Youth and Family Services (Division 37); the Gerontological Society of America: the International Society for Infant Studies; the National Black Child Development Institute; the National Council on Family Relations; the Society for Research on Adolescence; and the Society for Research in Child Development. Major financial support for the conference was provided by the Foundation for Child Development and the William T. Grant Foundation. Generous contributions were also received by the APA Science Directorate, the Jennifer Corn Carter Family Philanthropic Fund, the A. L. Mailman Foundation, Ablex Publishing Corporation, Lawrence Erlbaum Associates, McGraw-Hill College Division, the Psychological Corporation, and Fordham University.*
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Joy D. Osofsky, Ph.D., is a psychologist who is professor of Pediatrics and Psychiatry at Louisiana State University School of Medicine in New Orleans. She is director of the Violence Intervention Program (VIP) and the Harris Center for Infant Mental Health, past president of the World Association for Infant Mental Health, and editor of the Infant Mental Health Journal.
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### From the Editor

Please note that, owing to an unavoidable delay in publication of Social Policy Report, Volume 11 will contain three issues instead of the usual four. The present issue (No. 2) focuses on applied developmental training in psychology departments and medical schools. A review of applied developmental science training in public policy schools is to appear in Volume 11, No. 3, which is in press. Nonmember subscribers of 1997 are also receiving the first issue of 1998 (vol. 12, no. 1) as the last issue of their subscription.
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